

**A FRENCH HOSPITAL BUDGET IMPACT MODEL COMPARING ANTICOAGULATION STRATEGIES IN PRIMARY PERCUTANEOUS CORONARY INTERVENTION**Olchanski N<sup>1</sup>, [Slawsky K<sup>1</sup>](#), Cyr P<sup>1</sup>, Schwenkglenks M<sup>2</sup>, Steinhubl S<sup>3</sup><sup>1</sup>Boston Healthcare Associates, Boston, MA, USA, <sup>2</sup>European Centre of Pharmaceutical Medicine (ECPM), Basel, Switzerland, <sup>3</sup>The Medicines Company, Zürich-Flughafen, Switzerland

**OBJECTIVES:** Primary percutaneous coronary intervention (PPCI) has become the preferred treatment option for acute ST-segment elevation myocardial infarction (STEMI). In 2009, over 18,000 PPCI procedures were performed in France. New antithrombotic therapies can potentially improve clinical outcomes and decrease costs. The HORIZONS-AMI study of bivalirudin demonstrated reduced clinical event rates (mortality and bleeding) compared to a heparin and GPI (HEP + GPI) regimen. The potential economic value of implementing bivalirudin in the PPCI setting is evaluated here from a French hospital perspective. **METHODS:** A budget impact model was developed to compare treatment of STEMI patients undergoing PPCI with either bivalirudin or HEP + GPI. Clinical data for the model were derived from the HORIZONS trial database, and included 30-day event rates for major complications (non-access site bleeding as defined by trial protocol, Q-wave myocardial infarction, repeat PCI and coronary artery bypass graft procedures) and patient death. Non-access site bleeding was examined in light of decreased incidence of access site-related bleeding events associated with radial access PCI, a common practice in France. French cost and clinical practice data were derived from published sources. **RESULTS:** Overall average procedure and hospitalization cost per bivalirudin-treated patient (incorporating 7.2% provisional GPI use as per HORIZONS) was €8171, compared with €9201 per HEP + GPI-treated patient. In extrapolating these benefits to a typical French hospital of 200 PPCI patients per year, 2 deaths (1%), 3 minor non-access site bleeding events (1.4%), and 4 major non-access site bleeding events (1.9%) in patients would be averted if treated with bivalirudin. The total hospital budget impact of treating 200 PPCI patients using a HEP + GPI based strategy is 1,840,267€. Introducing a bivalirudin-based strategy could save €206,148 (11%) per year. **CONCLUSIONS:** Using a bivalirudin-based strategy in STEMI patients undergoing PPCI is associated with favorable clinical and economic outcomes when compared with HEP + GPI in a French hospital setting.

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**ECONOMIC EVALUATION ON THE USE OF LEVOSIMENDAN IN PATIENTS WITH ACUTE HEART FAILURE (AHF) IN THE MEXICAN CONTEXT**Mayen E, [Cortina D](#)

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**OBJECTIVES:** Evaluate the economic impact of the use of Levosimendan compared to Dobutamine, in patients with Acute Heart Failure (AHF) in Mexico. **METHODS:** Literature review was conducted to compare the resource utilization for AHF patients. Further, a budget impact analysis was done to demonstrate economic advantages of using Levosimendan, compared to Dobutamine. An economic model was built based on days in general ward (GW) and intensive care unit (ICU) as parameters. The number of days in GW and/or ICU was multiplied by the cost per GW and ICU, taken from the Mexican Federal Authority data. **RESULTS:** Length of stay was shorter in case of Levosimendan treated patients compared to Dobutamine ones (2.88 vs. 3.22 in ICU, and 4.15 vs. 5.74 in GW), according to the ALARM-HF study (abstract presented at the ESC-Hear Failure annual congress 2007, Germany). The medical costs per patient were US\$7418 if treated with Levosimendan and US\$8680 for a patient receiving Dobutamine, thus a US\$1262 difference. In Mexico, the cost of the treatment of AHF patients is US\$500 (1 vial) for Levosimendan and US\$76 (10 vials) for Dobutamine (US\$424 difference). The final result, including the cost of the drug, shows a difference of 838 USD per patient in favour of the treatment with Levosimendan. According to international and national literature, the eligible AHF population to receive inotropic treatment in Mexico is approximately 90,240. Assuming that the whole population were treated with Dobutamine, the total cost, would be US\$790.1 million. If treated with Levosimendan, the total would be US\$714.8 million. This represents potential savings of US\$75.6 USD million for the Mexican Public Health System. **CONCLUSIONS:** The use of Levosimendan, in comparison with Dobutamine, has demonstrated to represent a very important source of potential savings for the Mexican public health system in patients with AHF.

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**COMMUNITY-BASED CARE FOR THE SPECIALIZED MANAGEMENT OF HEART FAILURE: A COST-EFFECTIVENESS AND BUDGET IMPACT ANALYSIS**Wiyejundersera H<sup>1</sup>, [Machado M<sup>2</sup>](#), Wang X<sup>1</sup>, van der Velde G<sup>4</sup>, Witteman W<sup>2</sup>, Tu J<sup>3</sup>, Lee D<sup>5</sup>, Goodman S<sup>6</sup>, Petrella R<sup>7</sup>, O'Flaherty M<sup>8</sup>, Capewell S<sup>9</sup>, Krahin M<sup>4</sup><sup>1</sup>Sunnybrook Health Sciences Centre, Toronto, ON, Canada, <sup>2</sup>Toronto Health Economics and Technology Assessment Collaborative, Toronto, ON, Canada, <sup>3</sup>Institute for Clinical Evaluative Sciences, Toronto, ON, Canada, <sup>4</sup>Toronto Health Economics and Technology Assessment (THETA) Collaborative, Toronto, ON, Canada, <sup>5</sup>University Health Network, Toronto, ON, Canada, <sup>6</sup>Canadian Heart Research Centre, Toronto, ON, Canada, <sup>7</sup>University of Western Ontario, London, ON, Canada, <sup>8</sup>University of Liverpool, Liverpool, England

**OBJECTIVES:** To determine the cost-effectiveness of Heart Failure (HF) clinics compared to standard care for HF patients in Ontario, Canada. **METHODS:** We performed a cost-effectiveness analysis, with a 12-year time horizon, from the perspective

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of the Ontario Ministry of Health. We compared a standard care cohort, consisting of all patients admitted to hospital with HF in 2005, to a hypothetical cohort treated in HF clinics. Survival curves describing the natural history of HF were constructed using mortality estimates from EFFECT study. Survival benefits and resource uptake associated with HF clinics were estimated from a meta-analysis of published trials. HF clinics costs were obtained by costing of a representative clinic in Ontario. Health-related costs associated with physician visits, hospitalizations, emergency department visits, same day surgeries and medication use, were determined through linkage to administrative databases. Outcome measures included life expectancy, costs (in 2008 CAD\$) and the incremental cost-effectiveness ratio (ICER). A budget impact analyses was performed to estimate affordability. **RESULTS:** The systematic review determined that HF clinics were associated with a 29% reduction in all-cause mortality (risk ratio [RR] 0.71; 95% Confidence Interval [CI] 0.56–0.91) but a 12% increase in hospitalizations (RR 1.12; 95% CI 0.92–1.135). The cost of care in HF clinics was \$52 per 30 patient-days. Projected life-expectancy of HF clinic patients was 3.91 years, compared to 3.21 years for standard care. The 12 year cumulative cost per patient in the HF clinic group was \$66,532 versus \$53,638 in the standard care group. The ICER was \$18,259/life year gained. The average annual cost for HF clinic implementation was \$17 million in Ontario. **CONCLUSIONS:** Multi-disciplinary HF clinics reduce mortality and increase life expectancy. Despite increasing overall costs due to increased late hospitalizations, HF clinics appear to be a cost effective way of delivering ambulatory care to HF patients.

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**COMPARATIVE EFFECTIVENESS OF LOW-MOLECULAR-WEIGHT-HEPARINS: META-ANALYSIS AND PHARMACOECONOMIC ASSAY**[Kildonaviciute G<sup>1</sup>](#), Kadusevicius E<sup>1</sup>, Varanaviciene B<sup>2</sup><sup>1</sup>Kaunas Medical University, Kaunas, Lithuania, <sup>2</sup>Kaunas Medical University Hospital, Kaunas, Lithuania

**OBJECTIVES:** To compare efficacy, safety and consumption of low-molecular-weight heparins (LMWHs) in Lithuania and to develop pharmacoeconomic decision model based on meta-analysis data. **METHODS:** Review and meta-analysis of published randomized control trials which directly compared the safety and efficacy of low molecular weight heparins (LMWH) i.e. Nadroparin, Enoxaparin, Dalteparin, was conducted by two independent reviewers using inclusion/exclusion criteria based on the objectives of research. Statistical software *MedCalc* was used to perform the estimations of the following values. We calculated the value of fixed effects and random effects odds ratio (95% confidence interval (CI)) for each trial for the composite end point. Afterwards, pharmacoeconomic decision modelling was implemented, which was based on meta-analysis data. Cost-minimization assay was accomplished using reference pricing methodology. **RESULTS:** Enoxaparin vs. Dalteparin: 4 studies, involving 471 patients, were eligible (fixed effects odds ratio 1.447 [95% CI 0.957–2.281]). Nadroparin vs. Enoxaparin: 3 studies, involving 1118 patients, were involved (fixed effects odds ratio 1.360 [95% CI 1.050–1.762]). Dalteparin vs. Nadroparin: 2 studies, involving 294 patients, were eligible (fixed effects odds ratio 0.577 [95% CI 0.337–0.988]). None of low-molecular-weight heparins demonstrated significant superiority when compared with each other, so group of LMWHs was suitable for pharmacoeconomic analysis and reference pricing implementation. Dalteparin single DDD price was set as reference price, as it was the least expensive option. Introducing the reference pricing for low-molecular-weight heparins would result in total savings of 1,830–2,070 thousand LTL in Lithuania yearly. The implementation of reference pricing would enable to decrease the total expenditures on LMWHs by 29.28%–31.98%. **CONCLUSIONS:** In the accomplished meta-analysis, none of low-molecular-weight heparins demonstrated significant superiority when compared with each other. Meta-analysis results could be applied to support pharmacoeconomic decision-modelling and that would allow decreasing health-care expenditures in the whole country.

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**COST OF VTE EVENTS FOR MEDICARE PATIENTS UNDERGOING MAJOR ORTHOPAEDIC SURGERIES ACCORDING TO DISCHARGE STATUS**[Baser O<sup>1</sup>](#), Supina D<sup>2</sup>, Sengupta N<sup>2</sup>, Wang L<sup>1</sup>, Kwong L<sup>3</sup><sup>1</sup>STATinMED and University of Michigan, Ann Arbor, MI, USA, <sup>2</sup>Ortho-McNeil Janssen Scientific Affairs, LLC, Raritan, NJ, USA, <sup>3</sup>Harbor-UCLA Medical Center, Torrance, CA, USA

**OBJECTIVES:** To estimate total costs of stay in a skilled nursing facility (SNF) to Medicare, beneficiaries, and private payors 1 year after a venous thromboembolism (VTE) event in patients with total hip/knee replacement (THR/TKR), and to compare costs of stays in short- versus long-term facilities. **METHODS:** Based on 2004–2006 national Medicare claims, all fee-for-service Medicare patients older than age 65 years who underwent THR/TKR were identified. The 1-year follow-up cost of care for patients with a VTE event (including deep vein thrombosis [DVT] and/or pulmonary embolism [PE]) during initial hospitalization was calculated for stays in short- versus long-term facilities or SNFs. Individual costs were identified as Medicare cost, total cost to beneficiaries, and total cost to private payors. Costs were compared between patients with and without a VTE event. Risk adjustment was done using regression techniques, controlling for baseline characteristics between patients with and without VTE events. **RESULTS:** In patients who underwent THR/TKR (n = 155,197), 1.8% had postoperative VTE during initial hospitalization. Almost 70% (n = 1950) of these patients had DVT, 24% (n = 642) PE, and 6% (n = 153) both DVT and PE. Almost 20% of patients with DVT, 6.3% with PE, and 8.5% with both DVT and PE were discharged to an SNF. The 1-year total cost of an SNF stay for patients with VTE